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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/578,788	05/08/2006	Arthur Boothroyd	OT11.PAU.01.US	8698

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EXAMINER	
PAUL, DISLER	

ART UNIT	PAPER NUMBER
2615	

MAIL DATE	DELIVERY MODE
12/12/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/578,788	BOOTHROYD, ARTHUR	
	Examiner	Art Unit	
	Disler Paul	2615	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) 1-15 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) 1-15 is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date 11/3/06.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1-2;4-15 are rejected under 35 U.S.C. 102(e) as being anticipated by Rass (US 2003/0235319 A1).

Re claim 1, Rass disclose of the method for achieving increased directivity in listening situations where at least one microphone is embedded in a first structure and at least one microphone is embedded in a second structure, the first and the second structure being freely movable relative to each other (fig.1-2 wt (1,20); page 3 par[0033-0034]), the method comprising conveying a microphone signal from one structure to a common processing unit for the microphone signals in the other structure and successively processing the signals for achieving a directional output based on the microphone input in both structures (fig.2 (28,23-24); par[0031,0038-0039]).

Re claim 2, the method according to claim 1, where the signal to be transmitted from one structure to another structure is delayed (fig.1 wt (23); par[0036]/signal with preprocessor may be delayed).

Re claim 4, the method according to claim 1, where in addition the distance and/or the spatial position of the one microphone is determined and conveyed to the processing unit (par[0028,0030]).

Re claim 5, the microphone array for achieving increased directivity in listening situations, where the array comprises at least two microphones for producing a corresponding number of microphone signals, where one microphone is embedded in a first structure and a second microphone is embedded in a second structure, the first and the second structure being movable relative to each other to increase or decrease the distance between the microphones in the first structure and the second structure, where means are provided for conveying the signals from at least one microphone to a common processing unit for the microphone signals (*see claim 1,4 rejection*).

RE claim 6, the microphone array according to claim 5, where the distance between a microphone in the first structure and a microphone in the second structure may be brought to a mutual distance for facilitating directivity processing facilitating directivity processing below 1000 Hz (fig.1; par[0033,0030]).

Re claim 7 has been analyzed and rejected with respect to claim 4.

Re claim 8, the microphone array according to claim 7 where, in addition, there are means for conveying the position to the processing unit (par[0030],fig.2 (16,28,23)).

Re claim 9, the microphone array according to any of the claims 5, where means are provided for conveying a microphone array signal to a head-worn device, e.g. a hearing aid, where these means for conveying may comprise a Radio Frequency (RF), inductive, Infra-Red (IR), wired or other transmission link (fig.2 (16,28); par[0041]).

Re claim 10-11 have been analyzed and rejected with respect to claims 1,9.

Re claim 12, A hearing aid for use in a system as defined in claim 10, where means are provided for receiving an additional external microphone input and for conveying these to a processing unit in the hearing aid, where the processing unit is adapted to provide a directional output based on the microphone inputs (fig.2 (23,24); par[0031,0036]).

RE claim 13, the hearing aid according to claim 12, comprising a wireless receiver for receiving microphone input signals from an independent microphone unit (fig.2; par[0041]).

Re claim 14, the microphone unit for use in a system as defined in claim 10, the unit comprising at least one microphone and a transmitter for transmitting a microphone signal to a hearing aid comprising a receiver (fig.2 wt (16,28).

Re claim 15, the microphone unit according to claim 14, comprising a wireless transmitter for transmitting microphone input signals to an independent hearing aid unit (fig.2).

3. Claim 3 is rejected under 35 U.S.C. 102(e) as being anticipated by Rass (US 2003/0235319 A1) and further in view of Official notice.

Re claim 3, the method according to claim 1 with directivity, wherein the microphone signal of the one structure is amplified, filtered and weight adjusted/equalized for achieving directivity (par [0025,0040],fig.1 wt (23); par[0043]). However, Rass fail to disclose of the specific wherein the signals being attenuated and low-pass filter. However, official notice is taken the concept of using the feature of either attenuating/low-pass filter a signal in achieving directivity is commonly know in the art, thus it would have been obvious for one of the ordinary skill in the art at the time of the invention to have incorporated the further with specifically of

attenuating/low pass filter a signal for optimizing directional output of the signal.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Disler Paul whose telephone number is 571-270-1187. The examiner can normally be reached on 7:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chin Vivian can be reached on 571-272-7848. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

DP

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